REMARKS

This Amendment is respectfully submitted by Applicant in response to the Office Action mailed December 23, 2002, and further in response to the Advisory Action mailed April 14, 2003. Applicant has carefully reviewed the Office Action and the cited references, and this Amendment is believed to be fully responsive. In view of the amendments and remarks submitted herein, as well as the remarks submitted March 24, 2003, which are incorporated herein by reference, Applicant respectfully requests reconsideration and withdrawal of the pending rejections, and allowance of the application.

Claims 1-11 are pending in the application. Claims 1-3 and 7-11 stand rejected under 35 U.S.C. §102(b) as being anticipated by Gotzenbrucker et al. Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Gotzenbrucker et al. Claims 4 and 6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gotzenbrucker et al. in view of Driscoll. Applicant respectfully traverses the rejection for at least the reason that Gotzenbrucker and the other references of record fail to show or suggest alone or in combination, among other things, a planar slice of semiconductor material wherein each of the faces as defined in present claim 1 has had removed from part of it by abrasion a depth of material which increases gradually as the outer edge is approached and defines a removal region having a profile which varies substantially smoothly along the removal region.

Gotzenbrucker does not appear to teach or suggest removal of faces by abrasion, as defined in the claim, in any part of its removal process. In fact, the fundamental

concept of the invention of Gotzenbrucker is a sequential multiple-etch method using multiple masks to form its profile. However, the Office Action has apparently refused to acknowledge the structural significance of this difference, even though the Office Action admits that, "It is noted that etching and abrasion produce different surface conditions". Instead, this finding is apparently dismissed by the rationale that "the specification does not describe any such differences and therefore cannot distinguish between them".

Applicant respectfully traverses this statement and conclusion for at least the reason that the phrase "removed from part of it by abrasion" itself describes particular structural features, and therefore a structure is defined that must then be compared to the structure taught by Gotzenbrucker. If there is an unobvious structural difference between a profile produced by the use of multiple etch steps as taught in Gotzenbrucker and a profile formed by removing a depth of material by abrasion, the rejection is improper, and should be withdrawn.

Applicants respectfully submit that there is such an unobvious structural difference between a profile having a depth of material removed by abrasion and the structure produced only by multiple etching, and this difference would be understood and appreciated by one skilled in the art. In a previous amendment, Applicant amended claim 1 to more clearly define one such difference resulting from abrasion – i.e. that the removal region varies substantially smoothly along the removal region. In Gotzenbrucker, by contrast, the specific multiple-etching method described results in the multi-stepped profile

shown in FIGs. 3 and 6. As shown, separate etch depths and profiles can be clearly delineated, and are separately identified in Gotzenbrucker (different reference characters, distances, etc.).

Applicants respectfully submit that one skilled in the art would appreciate that, for at least the reasons illustrated in the Figures of Gotzenbrucker, among other reasons, an abrasion process as defined would produce a structurally different slice of material than that formed by the multiple-etching process of Gotzenbrucker. The existence of the angle α along flank length L does not remove the conclusion that there are discrete, clearly (and purposely) defined and delineated, multiple removal regions of varying profiles, nor does it change the fact that a profile produced only by multiple etches of different depths would simply not be the same as a profile produced by abrasion. This angle α, defined over a portion of flank length L in Gotzenbrucker, is designed to relieve the difficulty resulting from the different structure resulting from the depletion etch method taught in Gotzenbrucker – i.e. it is difficult to control the etch depth. By providing the sloped bottom moat area along a portion of its removal region, shown along section Xj of the profile, by a separate etch (shown in FIG. 6) creating clearly visible multiple regions, Gotzenbrucker attempts to overcome this inherent difficulty. This necessarily results in a different structure than that produced by abrasion. To modify this type of structure even to attempt to approximate a profile produced by abrasion, a significant number of etching steps would be required, each moving the staggered edge a

little further, to produce a sufficiently smooth slope of sufficient lateral extent. This hypothetical modification is neither economic nor practical.

Accordingly, the resultant structure of the production method taught by Gotzenbrucker would be understood to be different from the structure defined in claim 1. Applicants further submit that one skilled in the art would not find it obvious to modify the structure of Gotzenbrucker to produce the structure defined in claim 1, as Gotzenbrucker is specifically directed to a profile formed by multiple-etch steps.

For at least these reasons, Applicant respectfully submits that claim 1 as amended is allowable over the references of record, including Gotzenbrucker, and Applicant requests reconsideration and withdrawal of the rejection. Claims 2-11, having all of the features of amended claim 1, plus additional features, are believed to be similarly allowable for at least the reasons as applied to independent claim 1, plus at least the additional reason that neither official notice (re: the rejection of claim 5) nor Driscoll (re: the rejection of claims 4 and 6) are believed to remedy the deficiencies of Gotzenbrucker regarding the pending claims. Accordingly, Applicant respectfully traverses and request reconsideration and withdrawal of the rejection of claims 2-11.

Additionally, Applicant submits new claims 22-31. Applicant respectfully submits that these new claims are allowable over the references of record, including Gotzenbrucker, for at least the reason that Gotzenbrucker neither teaches nor suggests the

structure formed because of the process defined in claim 22. Applicant thus requests consideration and allowance of these claims.

For at least the foregoing reasons, Applicant believes that this case is in condition for allowance, which is respectfully requested. The Examiner should call Applicant's attorney if an interview would expedite prosecution.

Respectfully submitted,

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